

STATE OF VERMONT  
PUBLIC SERVICE BOARD

Docket No. 7514

Petition of Central Vermont Public Service Corporation	)	
(CVPS) for a certificate of public good authorizing the	)	Hearing at
construction of a 50 kW solar array and educational	)	Montpelier, Vermont
display at the CVPS Rutland District Service Center	)	July 13, 2009
located in Rutland Town, Vermont	)	

Order entered: 7/24/2009

PRESENT: Ed McNamara, Hearing Officer

APPEARANCES: Jeanne E. Burns, Esq.  
Central Vermont Public Service Corporation

Jeanne Elias, Esq.  
Sarah Hofmann, Esq.  
for Vermont Department of Public Service

Judith Dillon, Esq.  
for Agency of Natural Resources

**I. INTRODUCTION**

This case involves a petition filed by Central Vermont Public Service Corporation ("CVPS") on April 15, 2009, requesting a certificate of public good under 30 V.S.A. § 248 authorizing the construction of a 50 kW solar array and educational display at the CVPS Rutland District Service Center in Rutland Town, Vermont (the "Project"). In this proposal for decision, I recommend that the Vermont Public Service Board ("Board") approve the petition.

**II. PROCEDURAL HISTORY**

On May 6, 2009, I held a Prehearing Conference. Appearances were entered for the Department of Public Service ("Department") by Jeanne Elias, Esq., for the Agency of Natural Resources ("ANR") by Judith Dillon, Esq., and for CVPS by Jeanne Burns, Esq.

Notice of a Public Hearing for the project was published in the *Rutland Herald* on May 22, 2009 and May 29, 2009. The public hearing was held on June 10, 2009, with three members of the public attending the public hearing, all of whom expressed support for the Project.

On June 26, 2009, a site visit was held.

No motions to intervene were filed in this docket.

A Technical Hearing was held on July 13, 2009, at which the prefiled testimony, exhibits and a joint stipulation ("Stipulation") among the Department, ANR and CVPS were entered into the record by stipulation.

Based on the Petition, the associated prefiled testimony, the stipulation, the evidence presented at the technical hearing, and the absence of any factual disputes, I have determined that this matter is ready for decision. Based on the substantial evidence of record and the testimony presented at the hearing, I hereby report the following findings to the Board in accordance with 30 V.S.A. § 8.

### **III. FINDINGS**

1. CVPS is a duly organized public service corporation with a principal place of business at 77 Grove Street, Rutland, Vermont. Petition at 1.
2. The Project includes the following elements:
  - (a) installation of thirty-three post-mounted arrays of eight 190-watt photovoltaic panels each, for a total of two hundred sixty-four panels;
  - (b) construction of an equipment shed, approximately 12 feet square, to house inverters and data-collection equipment for display of Project output via the internet;
  - (c) the addition of two phases to an existing, two-pole, single-phase tap that runs from Route 7 to the base of the Glen Hydroelectric Station surge tank; the tap will serve as the point of grid connection for the project;
  - (d) parking, pedestrian access and interpretive displays to facilitate educational tours; and
  - (e) landscaping, including the removal of existing trees and installation of new plantings.

Bowen pf. at 2-5; Jockell pf. at 2; Upton pf. at 8-13; exhs. MWB-1, TOU-7, TOU-8, TOU-9.

3. The photovoltaic panels will produce approximately 50.16 kW of DC power that will be converted to AC power via nine single-phase inverters banked together to produce three-phase power at secondary voltage (480 kV) that is compatible with the electric grid. Transformation to primary voltage will be via a three-phase, 75 kVA pole-mounted transformer bank consisting of three individual 25 kVA transformers. An existing 360-foot, single-phase distribution line will be upgraded to three-phase conductor. Jockell pf. at 2.

4. The Project is designed to install and promote local, renewable sources of electricity, and provide educational experiences to local students and the public. Petition at 2.

### **Orderly Development of the Region**

[30 V.S.A. § 248(b)(1)]

5. The Project will not unduly interfere with the orderly development of the region, with due consideration having been given to the recommendations of the municipal and regional planning commissions, the recommendations of municipal legislative bodies, and the land conservation measures contained in the plan of the affected municipality. This finding is supported by findings 6 through 11, below.

6. The Project involves the installation of thirty-three solar arrays adjacent to the CVPS Rutland District Service Center. Upton pf. at 2-3.

7. Most of the land surrounding the Project is already dedicated to energy production, transmission, and distribution, and the project therefore will reinforce existing development patterns. Upton pf. at 3.

8. The Future Land Use map included in the Rutland Town Plan designates the property for "Utility" use. Upton pf. at 3.

9. The Energy section of the Rutland Town Plan includes a goal to "encourage the efficient use of energy and the development of renewable energy resources." The plan does not contain any land conservation measures. Upton pf. at 3.

10. The Rutland Regional Plan, developed by the Rutland Regional Planning Commission, does not directly address the construction of energy generation facilities. The plan does not contain any land conservation measures. Upton pf. at 3.

11. CVPS staff presented project plans to the Rutland Town Selectboard and Planning Commission on March 19, 2009. Plans were provided to the Rutland Regional Planning Commission on March 16, 2009. None of these entities recommended changes to the design as proposed. Upton pf. at 3-4.

### **Need for Present and Future Demand for Service**

[30 V.S.A. § 248(b)(2)]

12. The Project is required to meet the need for present and future demand for service which could not otherwise be provided in a more cost-effective manner through energy conservation programs and measures and energy efficiency and load management measures. This finding is supported by findings 13 and 14, below.

13. The Vermont Sustainably Priced Energy Enterprise Development ("SPEED") program requires that electric utilities meet all load growth since the end of 2004 with renewable resources. Bentley pf. at 3.

14. The Project will contribute toward the SPEED program goal of generating a minimum percentage of Vermont's electricity needs from renewable sources. Bentley pf. at 3.

### **Discussion**

In addition to the requirement that electric utilities meet all load growth with renewable resources, 30 V.S.A. § 8005(d)(1) states that the Board must find that "at least five percent of the 2005 total statewide electric retail sales is provided by qualified SPEED resources . . . ." The Project contributes to meeting this requirement.

### **System Stability and Reliability**

[30 V.S.A. § 248(b)(3)]

15. The Project will not have an adverse impact on system stability or reliability. The Project, as proposed, was subjected to the PSB Rule 5.500 Interconnection Fast Track Screening Process as described in Section 5.505 of the Rule. The Project passed all applicable criteria listed in Section 5.505(B). Jockell pf. at 3.

**Economic Benefit to the State**

[30 V.S.A. § 248(b)(4)]

16. The Project will result in an economic benefit to the state and its residents. This finding is supported by findings 17 through 19, below.

17. The total construction cost for the Project is estimated at \$400,000. Bentley pf. at 2.

18. The Project will demonstrate the ability to connect solar photovoltaic power generation directly to the electric grid and provide opportunities for the public, especially school children, to observe the installation directly on-site and from a nearby public highway. Bentley pf. at 2.

19. Contractors on the project are from the local Rutland area. In addition, Stafford Technical School students will be involved in the project to learn and gain experience and professional training alongside CVPS and local electrical union personnel. Bentley pf. at 2.

**Aesthetics, Historic Sites, Air and Water Purity,  
the Natural Environment and Public Health and Safety**

[30 V.S.A. § 248(b)(5)]

20. The modifications as proposed will not have an undue adverse effect on aesthetics, historic sites, air and water purity, the natural environment and public health and safety. This finding is supported by findings 21 through 53 below, which address the criteria specified in 10 V.S.A. §§ 1424(a)(d) and 6086(a)(1) (8)(a) and (9)(k).

**Outstanding Resource Waters**

[10 V.S.A. § 1424(a)(d)]

21. There are no outstanding resource waters in the Project area. Upton pf. at 14; exh. TOU-1.

**Water and Air Pollution**

[10 V.S.A. § 6086(a)(1)]

22. The Project will not result in unreasonable water or air pollution. This finding is supported by findings 23 through 32, below.

23. Dust will be controlled through the application of chloride as needed during construction. Construction will take place only during daylight hours, which will minimize the effects of noise at neighboring properties. Brush associated with tree clearing will be chipped on

site. It will be reused on site or hauled away for reuse off site. Stumps will be processed for on-site use, or disposed of at a certified off-site facility in accordance with Vermont solid waste management rules. No burning will take place. Upton pf. at 4-5.

### **Headwaters**

[10 V.S.A. § 6086(a)(1)(A)]

24. The Project is not located in a headwaters area. Upton pf. at 5; exh. TOU-1.

### **Waste Disposal**

[10 V.S.A. § 6086(a)(1)(B)]

25. The Project will meet applicable health and Environmental Conservation Department regulations regarding the disposal of wastes. This finding is supported by findings 26 through 28, below.

26. The Project does not involve disposal of wastes or injection of any material into ground water or wells. Upton pf. at 5.

27. Brush associated with tree clearing will be chipped on site. It will be reused on site or hauled away for reuse off site. Stumps will be processed for on-site use, or disposed of at a certified off-site facility in accordance with Vermont solid waste management rules. Upton pf. at 5.

28. Due to its nature and size, the Project does not require a state stormwater discharge operating permit, or a National Pollutant Discharge Elimination System ("NPDES") stormwater construction permit. Silt fencing will be installed downgradient of areas of earth disturbance, and the site will be stabilized and seeded upon completion of construction activities. Upton pf. at 5-6.

### **Water Conservation**

[10 V.S.A. § 6086(a)(1)(C)]

29. The Project will not require the use of water. Upton pf. at 6.

**Floodways, Streams, and Shorelines**

[10 V.S.A. §§ 6086(a)(1)(D)(E) &amp;(F)]

30. The Project is not located in a floodway or on a shoreline. There are no streams at the project site. Upton pf. at 6.

**Wetlands**

[10 V.S.A. § 6086(a)(1)(G)]

31. There are no significant wetlands located near the Project site. Upton pf. at 6; exh. TOU-1.

**Sufficiency of Water and Burden on Existing Water Supply**

[10 V.S.A. §§ 6086(a)(2)&amp;(3)]

32. The Project will not require the use of water. Upton pf. at 7.

**Soil Erosion**

[10 V.S.A. § 6086(a)(4)]

33. The Project will not cause unreasonable soil erosion or reduction in the capacity of the land to hold water so that a dangerous or unhealthy condition may result. This finding is supported by findings 34 and 35, below.

34. There are no streams, rivers or wetlands on the Project site. Silt fencing will be installed downgradient of areas of earth disturbance, and the site will be seeded upon completion of construction activities. Access by construction equipment will be from the existing CVPS service center driveway, from a single access point. A stone construction entrance will be installed to prevent the tracking of sediment off site. Upton pf. at 6-7.

35. A 12-foot strip of geotextile fabric will be placed along the length of each row of arrays. The only impervious surfaces created by the Project will be the solar panel and shed foundations, and a small gravel parking area with educational signs adjacent to the existing driveway. Upton pf. at 7.

**Transportation Systems**

[10 V.S.A. § 6086(a)(5)]

36. The Project will not cause unreasonable congestion or unsafe conditions with respect to transportation systems. The Project will be located entirely outside the right-of-way of U.S. Route 7. A small parking area, adjacent to the CVPS driveway, will provide space for at least

three cars in the event that a passerby wishes to stop and view the Project. Interpretive signs will be posted at this location. Upton pf. at 7-8; exh. TOU-7

### **Educational and Municipal Services**

[10 V.S.A. § 6086(a)(6)and (7)]

37. The Project will not cause an unreasonable burden on the ability of the Town of Rutland to provide education or municipal services. Upton pf. at 8.

### **Discussion**

The Project will not cause an unreasonable burden on educational services, but instead will provide a benefit to local schools by providing educational experiences to students. These experiences include two primary components: (1) the students in the Stafford Technical School have assisted with designing landscape plans and the power shed, and will assist in doing electrical, graphics, forestry, welding, construction, and media work associated with the Project going forward; and (2) the educational experiences that will arise from tours of the Project, posting Project output and weather data online, and the development of a curriculum associated with the Project.<sup>1</sup>

### **Aesthetics, Historic Sites and Rare and Irreplaceable Natural Areas**

[10 V.S.A. § 6086(a)(8)]

38. The Project will not have an undue adverse effect on the scenic or natural beauty, aesthetics, historic sites or rare and irreplaceable natural areas. This finding is supported by findings 39 through 50, below.

39. The parcel of land on which the Project site is located is currently used for utility operations, including the CVPS Systems Operations Building and Rutland District Service Center building, along with the penstock and surge tank associated with the Glen station hydroelectric generating facility. Upton pf. at 9; exh. TOU-2.

40. The property is a mixture of buildings, structures, parking, lawn, upland forest, and a wetland complex including forested and scrub/shrub wetland types. The Project will be built on

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1. Bowen pf. at 3-4.



an existing lawn, along the north side of the CVPS Route 7 driveway and adjacent to the northbound lane of U.S. Route 7. Upton pf. at 9.

41. The land to the east of the Project is forested. Adjacent land uses to the north include a church and veterinary clinic. Across Route 7 to the west are the Glen generating station and East Creek. Upton pf. at 9-10.

42. The area proposed for the solar arrays is already cleared and will require minimal grading and site work. There are no physical, topographical, or environmental constraints. The site is visible from Route 7, which will enhance the Project's value as a demonstration and public educational tool. Upton pf. at 9.

43. Construction of the CVPS service center building in 1985 required a permit pursuant to 10 V.S.A. Chapter 151 (Act 250). Among the conditions of that permit (L.U.P. #1R0544) was the implementation of a planting plan. Upton pf. at 10.

44. From 1985 to 1989, several dozen hardwood and softwood trees, in addition to many smaller bushes, were planted in accordance with the approved plan in order to screen the building from Route 7. Immediately to the south of the proposed project a number of white pine, white spruce, red maple, and red oak line either side of the driveway. Along the north side of the driveway are a row of nineteen white pine and three white spruce. Opposite these trees along the south side of the driveway are four red oak, five red maple, and eleven white spruce. Directly adjacent to the building are seven dwarf crabapples and five spruce. These trees are now mature and together block the view of the front of the service center building from the north almost completely. Upton pf. at 10; exh. TOU-2.

45. In order to install the solar panels, the pine and spruce along the north side of the driveway will need to be removed, because they shade much of the area where the panels will be located. One poplar in the lawn area and one failing sugar maple along Route 7 will also be removed. All of the trees along the south side of the driveway, and in front of the service center building, will remain. The plantings to the south will continue to provide a very effective visual screen for the building. In addition, the visibility of the solar panels themselves will deflect attention from the buildings on the property. Upton pf. at 10-11; exhs. TOU-2, TOU-3A through 3F.

46. Additional landscaping will be installed to further enhance the appearance of the property. Students from the Stafford Technical Center in Rutland designed a landscape plan for the site. This plan includes architectural design for the equipment shed, parking and pedestrian access, interpretive educational signs, and plantings. Proposed plantings include meadowsweet adjacent to the parking area, red osier dogwood and cranberry adjacent to the CVPS driveway, and lilacs and juniper along the northern property boundary. With the exception of the lilacs, all are native species and will provide food for birds and other wildlife in addition to their aesthetic benefits. Upton pf. at 11; exh. TOU-9.

47. Related construction on the distribution system will include the addition of two phases to an existing, two-pole, single-phase tap which runs from Route 7 to the base of the Glen Station surge tank. The tap will serve as the point of grid connection for the project. The distribution-related construction will not have an adverse aesthetic impact. Upton pf. at 12; tr. 7/13/09 at 8 (Upton).

48. The view of the Project from Route 7 southbound will be of the back of the solar panels and the support structures. From this angle, the equipment may not be recognizable as components of a solar project. A sign identifying the purpose of the site will mitigate the aesthetic impact of the Project from Route 7 southbound. Tr. 7/13/09 at 9 (Upton).

49. The Project will not impact potential archeological sites. Scott Dillon of the Vermont Division for Historic Preservation visited the site in 2008 and determined that no archeological survey is required. Upton pf. at 12-13; exh. TOU-10.

50. There are no known rare or irreplaceable areas or historic sites in the area of the Project. Upton pf. at 13; exh. TOU-1.

### Discussion

Unlike most utility projects reviewed by the Board, the Project is designed to be highly visible in order to fulfill one of its intended purposes — public education of photovoltaic projects. The integration of educational materials and interpretive signs into the project design, along with the proposed installation of new plantings, represents appropriate mitigation for any changes associated with the removal of existing trees. Twenty-two trees, originally planted as a condition to a 1985 Act 250 permit, will be removed. However, the remaining elements of the

approved planting plan, having matured over the past 20 to 25 years, will continue to screen the service center building from travelers on Route 7. Parking and pedestrian access, educational signs, plantings, and the equipment shed, all designed by local high school students at the Stafford Technical Center in Rutland, are intended to enhance both the appearance of the site and the educational value of the project for local students and the general public.

The Project will be highly visible from vehicles heading in both directions on Route 7. For passengers and drivers heading northbound along Route 7, the Project will be clearly identifiable as a photovoltaic generating station. However, the view from Route 7 southbound will be of the back of the panels and the support structures, with the purpose of the Project not being immediately clear. In keeping with the educational purpose of the Project, appropriate signage identifying the structures as components of a photovoltaic generation project, visible to southbound traffic on Route 7, should mitigate any adverse aesthetic impact from the Project.

I recommend that the Board require CVPS to file a proposal for signage describing the Project, for approval by the Board after opportunity for comment by parties. If, after construction of the Project, the Board determines that additional mitigation is required, it is possible to plant small shrubs that will screen the back of the panels and support structures without interfering with the function of the Project.

Therefore, I conclude that the that Project, with the condition described above, will not have an undue adverse impact on aesthetics or scenic or natural beauty, under Section 248(b)(5).

### **Necessary Wildlife Habitat and Endangered Species**

[10 V.S.A. § 6086(a)(8)(A)]

51. There are no known endangered species sites or areas of necessary wildlife habitat in the Project area. Upton pf. at 13; exhs. TOU-1, TOU-2.

### **Development Affecting Public Investments**

[10 V.S.A. § 6086(a)(9)(K)]

52. The Project will not unnecessarily or unreasonably endanger the public or quasi-public investments in any governmental public utility facilities, services, or lands, or materially

jeopardize or interfere with the function, efficiency, or safety of the public's use or enjoyment of or access to such facilities, services, or lands. Upton pf. at 13.

53. The closest public investment to the Project is U.S. Route 7. The Project will be located entirely outside the highway right of way. A small parking area, adjacent to the CVPS driveway, will provide space for three cars in the event that a passerby wishes to stop and view the project. Interpretive signs will be posted at this location. Any additional parking required for scheduled educational tours will be provided in the existing parking lots. Upton pf. at 13; exh. TOU-7

#### **Least Cost Integrated Resource Plan**

[30 V.S.A. § 248(b)(6)]

54. The Project is consistent with the principles for resource selection in accordance with CVPS's approved least-cost integrated plan. The Company is actively seeking renewable energy sources and seeks to learn more about such sources first hand to meet the desires expressed by the public for stable, renewable power resources as part of the electric power mix. Bentley pf. at 3.

#### **Compliance with Electric Energy Plan**

[30 V.S.A. § 248(b)(7)]

55. The Project is consistent with the 2005 Vermont Electric Plan. The Department conducted a public involvement process that revealed a preference for renewable, stable resources even at higher costs. The Vermont Electric Plan cites the need for public involvement and the changing environment favoring renewable resources. Bentley pf. at 4.

56. On July 15, 2009, the Department filed a letter stating that the Project is consistent with the *Vermont Twenty-Year Electric Plan*, pursuant to 30 V.S.A. § 202(f).

#### **Outstanding Resource Waters**

[30 V.S.A. § 248(b)(8)]

57. The Project is not located on or near any surface water features. Upton pf. at 14; exh. TOU-1.

#### **Waste-to-Energy Facility**

[30 V.S.A. § 248(b)(9)]

58. The Project does not involve a waste-to-energy facility.

**Existing or Planned Transmission Facilities**  
[30 V.S.A. § 248(b)(10)]

59. The Project can be served economically by existing transmission facilities without undue adverse effect on Vermont utilities or customers. The Project will connect directly to the CVPS distribution system. Jockell pf. at 3.

**IV. DISCUSSION AND CONCLUSIONS**

Based upon all the above evidence, and with the conditions I recommend that the Board include as part of the approval of the Project, I conclude that the Project:

- (a) will not unduly interfere with the orderly development of the region with due consideration having been given to the recommendations of the municipal and regional planning commissions, and the recommendations of the municipal legislative bodies;
- (b) is required to meet the need for present and future demand for service which could not otherwise be provided in a more cost-effective manner through energy conservation programs and measures and energy efficiency and land management measures;
- (c) will not adversely affect system stability and reliability;
- (d) will result in an economic benefit to the state and its residents;
- (e) will not have an undue adverse effect on aesthetics, historic sites, air and water purity, the natural environment and the public health and safety, with due consideration having been given to the criteria specified in 10 V.S.A. § 1424a(d) and §§ 6086(a)(1) through (8) and (9)(K);
- (f) is consistent with the principles of least-cost integrated resource planning;
- (g) is in compliance with the electric energy plan approved by the DPS under § 202 of Title 30 V.S.A.;
- (h) does not involve a facility affecting or located on any segment of the waters of the State that has been designated as outstanding resource waters by the Water Resources Board;
- (i) does not involve a waste-to-energy facility; and
- (j) can be served economically by existing or planned transmission facilities without undue adverse effect on Vermont utilities or customers.

All parties to this proceeding have waived their rights under 3 V.S.A. § 811 to file written comments or present oral argument with respect to this proposal for decision, provided that this

proposal for decision is substantially in the form as that agreed to by the Parties. Because this proposal for decision is substantially in the agreed-upon form, it has not been circulated to the parties.

DATED at Montpelier, Vermont this 24<sup>th</sup> day of July, 2009.

s/Ed McNamara

Ed McNamara, Esq.

Hearing Officer

**V. ORDER**

IT IS HEREBY ORDERED, ADJUDGED AND DECREED by the Public Service Board of the State of Vermont that:

1. The findings and recommendations of the Hearing Officer are adopted.
2. The proposed installation of a 50 kW solar array and educational display, in accordance with the evidence, plans, and other information presented in this proceeding, will promote the general good of the State of Vermont in accordance with 30 V.S.A. Section 248, and a certificate of public good shall be issued to allow such construction.
3. Central Vermont Public Service Corporation ("CVPS") shall comply with the following conditions to be set forth in the Certificate of Public Good:
  - a. Construction, operation and maintenance of the project shall be in accordance with the plans and evidence submitted in this proceeding.
  - b. To mitigate aesthetic concerns, CVPS shall propose appropriate signage for the northwest corner of the field, visible to southbound traffic along Route 7 describing the solar project. CVPS shall file a proposal by November 1, 2009, for Board approval, after the opportunity for review by parties.
  - c. The Agency of Natural Resources and the Department of Public Service shall have the opportunity to field review the project upon completion and file comments with the Board regarding whether additional aesthetic mitigation will be required.
  - d. The Board retains jurisdiction to review and approve post-construction landscaping and aesthetic mitigation measures.

Dated at Montpelier, Vermont, this 24<sup>th</sup> day of July, 2009.

<u>s/James Volz</u>	)	
	)	PUBLIC SERVICE
	)	
<u>s/David C. Coen</u>	)	BOARD
	)	
	)	OF VERMONT
<u>s/John D. Burke</u>	)	

OFFICE OF THE CLERK

FILED: July 24, 2009

ATTEST: s/Susan M. Hudson  
Clerk of the Board

*NOTICE TO READERS: This decision is subject to revision of technical errors. Readers are requested to notify the Clerk of the Board (by e-mail, telephone, or in writing) of any apparent errors, in order that any necessary corrections may be made. (E-mail address: psb.clerk@state.vt.us)*

*Appeal of this decision to the Supreme Court of Vermont must be filed with the Clerk of the Board within thirty days. Appeal will not stay the effect of this Order, absent further Order by this Board or appropriate action by the Supreme Court of Vermont. Motions for reconsideration or stay, if any, must be filed with the Clerk of the Board within ten days of the date of this decision and order.*